**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

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| Order Instituting Rulemaking Regarding Policies, Procedures and Rules for Development of Distribution Resources Plans Pursuant to Public Utilities Code Section 769. | Rulemaking 14-08-013<br>(Filed August 14, 2014) |

# CENTER FOR SUSTAINABLE ENERGY COMMENTS ON ASSIGNED COMMISSIONER'S RULING RE DRAFT GUIDANCE FOR USE IN UTILITY AB 327 (2013) SECTION 769 DISTRIBUTION RESOURCE PLANS

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The Center for Sustainable Energy offers the following comments on the Assigned Commissioner's Ruling regarding Draft Guidance (Draft Guidance) for Use in Utility AB 327 (2013) Section 769 Distribution Resources Plans (Plans). Our comments are organized as follows:

- Translating the Framework into Actionable Requirements: CSE strongly supports the proposed New Framework for Distribution Planning (Framework). We ask that the Commission clarify the actionable requirements of the utilities' Plans to better reflect the Framework. In particular, we suggest adjusting the scenarios of projected DER growth and requiring streamlined interconnection processes and grid investments to enable customer choices to manage their energy use, whether behind or in front of the meter.

- Translating Optimal Locations & Locational Values into Actionable Requirements & Transparent Information: CSE strongly supports the definitions of "optimal locations" and "locational value", which include resilience, social equity, environmental and economic benefits. We ask that the Commission refine the actionable requirements for the utilities' Plans to reflect the societal benefits included in the concepts of optimal locations and locational value, and to ensure that all optimal locations and locational value information is conveyed in a transparent manner.

- Defining Distributed Energy Resources: CSE supports the Draft Guidance's inclusion of any Combined Heat and Power (CHP) distributed generation

resources that will directly reduce GHG emissions over its lifecycle in the definition of Distributed Energy Resources, including stationary fuel cells, stationary combustion engines, and gas turbines that combine heat and power usage, regardless of whether such resources are fueled by renewables. However, we urge the Commission to *require* rather than *encourage* the utilities to expand the scope of their Plans to include any CHP that will "produce GHG emissions reductions over its lifecycle." We also offer clarification comments regarding the categories of Electric Vehicle charging included in the definition of Distributed Energy Resources.

The Center for Sustainable Energy (CSE), formerly the California Center for Sustainable Energy (CCSE), works to accelerate the transition to a sustainable world powered by clean energy. Our clean energy future depends on a strong, low-carbon economy that provides abundant jobs and business opportunities, a high quality of life and a clean, healthy environment. To bring about such a future, each of us must make wise choices now. CSE empowers customers to participate in the achievement of their clean energy goals by providing them with information, incentives and opportunities to help make these choices easier. We work with policy makers, public agencies, local governments, utilities, business and civic leaders and individuals to transform the energy marketplace and beyond.

## I. Translating the Framework into Actionable Requirements

CSE strongly supports the proposed "New Framework for Distribution Planning driven by the imperative of deep greenhouse gas emissions reductions, and enabled by the mass adoption of Distributed Energy Resources."[1] We agree that the goals of Section 769 must be understood in the "broader context of California's energy and climate

[1] Draft Guidance at 2.

goals," and that "[the] primacy of AB 32 and Executive Order S-21-09 mean that, in order to deliver benefits, major energy policy initiatives must necessarily support the achievement of 2020 and 2050 greenhouse gas (GHG) reduction targets."[2] We also support the parallel goals for the Plans: "1) to modernize the electric distribution system to accommodate two-way flows of energy and energy services throughout the IOUs' networks; 2) to enable customer choice of new technologies and services that reduce emissions and improve reliability in a cost efficient manner; and 3) to animate opportunities for DERs to realize benefits through the provision of grid services."[3]

CSE requests that the Commission clarify the actionable requirements of the utilities' Plans to enable the achievement of the State's goals, including 2050 GHG reduction targets through mass adoption of Distributed Energy Resources (DERs).

a. Adjusting Scenarios for Projected DER Growth

CSE requests that the Commission adjust the scenarios for projected DER growth. Per our reply comments to the Order Instituting Rulemaking, studying the expected levels and geographic dispersion of DERs is a critical step for distribution planning that supports the achievement of our GHG reduction goals and enables customer choices to adopt DERs. We are concerned that the proposed scenarios frame the achievement of our GHG reduction goals as the "high-growth" case for DER, rather than as the "floor" or default course of action. The "very high potential growth" scenario uses "key inputs drawn from achieving goals like those articulated in Zero Net Energy targets and the Governor's Zero Emission Vehicle Action Plan."

[2] Draft Guidance at 4.
[3] Draft Guidance at 4.

In addition to requiring the Plans under Section 769, AB 327 also added Section 399.15(b) to the Public Utilities Code, which clarified that the Commission may require procurement of renewables in excess of Renewable Portfolio Standard criteria, making it clear that California clean energy goals are the floor, not the ceiling, in light of GHG emissions reductions goals. Accordingly, the Plans should include scenarios that treat existing clean energy goals as the floor, not the ceiling. A scenario based on existing targets should be named the "Base" scenario, and a scenario with lower levels of DERs should be named the "Low" case. A scenario with more ambitious but realistic targets for DERs should be named the "High" scenario. In 2015, the High DER scenario could be based on (i) studies of the potential growth of cost-effective DERs within each substation, and (ii) initial estimates of the amount of distributed generation that can be interconnected within each substation with low-cost grid upgrades, assuming that intermittent distributed generation is integrated with other distributed energy resources, such as advanced inverters, energy storage, demand response, energy efficiency and electric vehicles. In future versions of the Plans, the High DER scenario should also reflect power-flow modeling of feeders within the substation and cost analyses to determine the optimal level of distributed generation that can be cost-effectively integrated.

b. Enabling Customer Choice

CSE suggests clarifying the goal to "enable customer choice of new technologies and services that reduce emissions and improve reliability in a cost efficient manner," and how the Plans will enable customer choice in practice. We recommend clarifying this goal as follows: "enabling customer choices *to manage their energy use and to provide grid services* that reduce emissions and improve reliability in a cost efficient manner." This refined goal recognizes two different types of customer choice that should affect

distribution planning in different ways. The Plans should support customer choices to provide cost-effective grid services, through new and existing solutions, that reduce emissions and improve reliability at optimal locations on the grid. The Plans should also support customer choices to adopt DERs to manage their energy use at the locations chosen by customers. Existing California goals, such as Zero Net Energy and Net Energy Metering, have established customer energy management as a critical building block for meeting GHG emissions reductions goals regardless of the location-specific value to the grid.

To translate the second concept into an actionable requirement, CSE asks that the Commission require the 2015 Plans to include a demonstration project to show how to streamline the interconnection process and propose grid upgrades to support all DERs adopted to manage a customer's energy usage, including wholesale interconnected DERs. These demonstration projects could be deployed in 2016, reviewed, and then applied with any adjustments to the utilities' entire service territories by 2018.

These demonstration projects should include new interconnection screens, clarifying which load profiles and voltage parameters for individual or combinations of DERs for managing a customer's energy usage will qualify for expedited review. The Draft Guidance provides that "Determination of optimality using the above definitions should also include consideration of whether the DER deployment utilizes customer side (behind the meter) or utility side (in front of the meter) interconnection."[4] However, CSE suggests that these screens should not be limited to behind-the-meter DERs. Multifamily and commercial customers that do not desire bill credits[5] should still have the opportunity to access streamlined interconnection processes to meet ZNE

[4] Draft Guidance at 29.

[5] See Ethan Elkind, In Our Backyard: How to Increase Renewable Energy Production on Big Buildings and Other Local Spaces (UC Berkeley Law and UCLA Law, 2009)

standards and otherwise manage their energy profiles. We recommend focusing on whether DER is adopted by customers for energy management, rather than on whether the interconnection is on the customer side or utility side of the meter, to allow additional business models for DERs to flourish.

As part of these demonstration projects, utilities should also propose investments in their General Rate Cases to accommodate the DERs projected to meet these screens in the upcoming period.

## II. Translating Optimal Locations & Locational Values into Actionable Requirements & Transparent Information

CSE strongly supports the definitions of "optimal locations" and "locational value", which account for resilience, social equity, environmental and economic benefits ("societal locational values"). Although many societal locational values have not yet become compliance requirements for utilities, we expect that as our energy system becomes increasingly decentralized, California's energy and climate policies will include more requirements to account for societal values. By recognizing these values and requiring utilities to compile data on these values, the Commission will provide legislators and regulators with the information they need to evaluate the societal impacts of investments in the distribution system.

We request that the Commission require the utilities' 2015 Plans to include methodologies for accounting for the full spectrum of benefits included in the concepts of optimal locations and locational value, including societal locational values. Utilities would propose sources of data for quantifying each of these locational values, and identify needs for additional data from external sources or guidance from the Commission. For example, utilities have not traditionally accounted for the social

equity or environmental justice locational value of DERs, so they would need to propose external sources for setting these values, and a methodology for accounting for these values in their Plans.

We also ask the Commission to require utilities to provide information about optimal locations and locational value in a transparent manner that can be understood and used by all stakeholders, including non-utility DER program administrators and implementers, as well as companies interested in providing services to the grid. A broad range of stakeholders should be able to interpret and rely on the information in the Plans to target customers at optimal locations and develop products to meet location-specific needs. We encourage the Commission to require utilities to present optimal locations and locational value data in a spatial format that will allow customers, contractors and other third parties to identify which buildings and properties are preferred locations for DERs, and to present this spatial data at a level of granularity that allows customers and companies to make investments in DERs.

If the Commission does not require utilities to provide this information below the substation level in the 2015 Plans, we urge the Commission to direct utilities to provide feeder-level information by 2017, and to present this information in a transparent format that can be relied upon by all stakeholders and supports private investment. This is a critical step toward the achievement of the Commission's goal of creating a distribution grid that is "plug and play" for DERs.[6]

## III. Defining Distributed Energy Resources

We support the Draft Guidance's inclusion of any Combined Heat and Power (CHP) distributed generation resources that will directly reduce GHG emissions over its

[6] Draft Guidance at 5.

lifecycle in the definition of Distributed Energy Resources, including stationary fuel cells and stationary combustion engines that combine heat and power usage, regardless of whether such resources are fueled by renewables. We ask the Commission to replace references on pages 27 and 28 to "Internal Combustion engine" and "I-C engines" with "stationary combustion engines", which would include other combustion engine technologies such as microturbines and conventional gas turbines.

We urge the Commission to *require* rather than *encourage* the utilities to expand the scope of their Plans to include any CHP that will "produce GHG emissions reductions over its lifecycle." Although the statute explicitly requires the inclusion of renewable distributed generation resources, this requirement is reasonable in light of the Draft Guidance's findings in the Framework section that distribution planning must be driven by California's GHG emissions reductions goals.

The draft Self-Generation Incentive Program (SGIP) 2013 Impacts Evaluation Report[7] concluded that the aggregate of gas turbine CHP projects within SGIP result in net GHG reductions when fueled by non-renewable gas, a clear finding that non-renewable DER CHP can contribute to GHG reductions. Additionally, the draft study titled *Opportunities for CHP projects to reduce greenhouse gas emissions in California*[8] includes the finding that well designed and efficient internal combustion and microturbine projects fueled by non-renewable natural gas can also result in net GHG reductions, though as the grid becomes de-carbonized via higher RPS standards there is a likelihood that fewer non-renewable CHP projects will result in net GHG reductions.

[7] Itron, *Draft Self-Generation Incentive Program (SGIP) 2013 Impacts Evaluation Report* (Fall 2014).
[8] Energy+Environmental Economics (E3), draft study on *Opportunities for CHP projects to reduce greenhouse gas emissions in California*, commissioned by CSE (August 19, 2014).

We also offer the following clarification comments regarding the categories of Electric Vehicle charging included in the definition of Distributed Energy Resources. We ask the Commission to consider separating Workplace and Public Charging for the following reasons. Workplace charging is expected to have longer "dwell times" (i.e. how long cars are parked), meaning a greater potential for managed charging that can support and provide other value to the distribution grid. Workplace charging is coincident with the anticipated mid-day solar photovoltaic over-generation peak. Workplace charging is also potentially a far more predictable resource for grid planning and integration.

We also note that references to "VG1" and "VG2" should be replaced with V1G and V2G respectively to reflect industry standard terminology.

## IV. Conclusion

For the foregoing reasons, the Center for Sustainable Energy respectfully requests that the Commission adopt the above recommendations.

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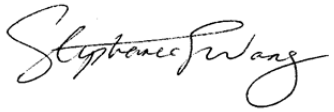

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